

IMAGES IN EMERGENCY MEDICINE

Ophthalmology

A man with a spontaneously swollen eye

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1 | PATIENT PRESENTATION

A 33-year-old male presented to the emergency department with sudden and painless left infraorbital swellings immediately after forceful nose blowing. Approximately 2 hours before the onset of symptoms, he was doing laundry and hit his left cheek on a laundry machine. Follow-



FIGURE 1 Nontender left periorbital swelling

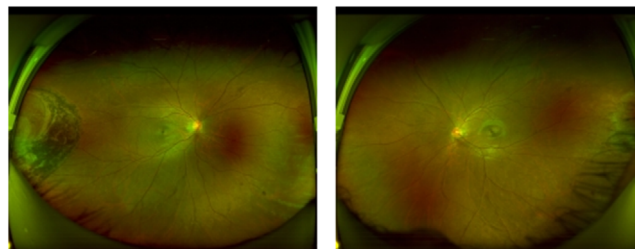


FIGURE 2 A funduscopy revealed no abnormal findings in the vitreous body or the retina

ing the event, he said that he felt discomfort in the cheek area without swelling. However, 2 hours after the hit, the patient blew his nose out with hands and immediately felt like a balloon had popped around his left eye. On admission, there was nontender left periorbital swelling, with crepitus on palpation (Figure 1). His optical examination was normal, including extraocular motion, visual acuity, and fundoscopic examination (Figure 2). Facial computed tomography was performed (Figures 3, 4, and 5).

2 | DIAGNOSIS

2.1 | Orbital emphysema with orbital floor blowout fracture

The patient was treated conservatively and discharged in stable condition, with the expectation that the issue might resolve spontaneously. Surgical repair and decompression were not performed. The patient

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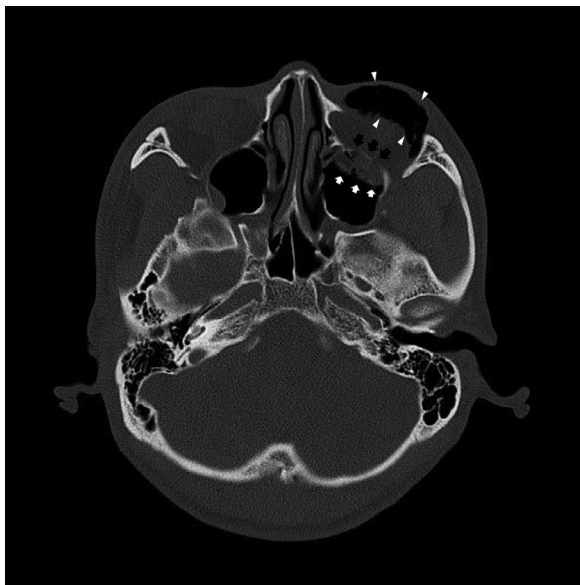


FIGURE 3 Computed tomography (CT) shows subcutaneous emphysema around the left orbit. Axial CT shows the left inferior orbital wall fracture (white arrows), herniation of orbital fat through the fracture (black arrows), and orbital emphysema (arrowheads)

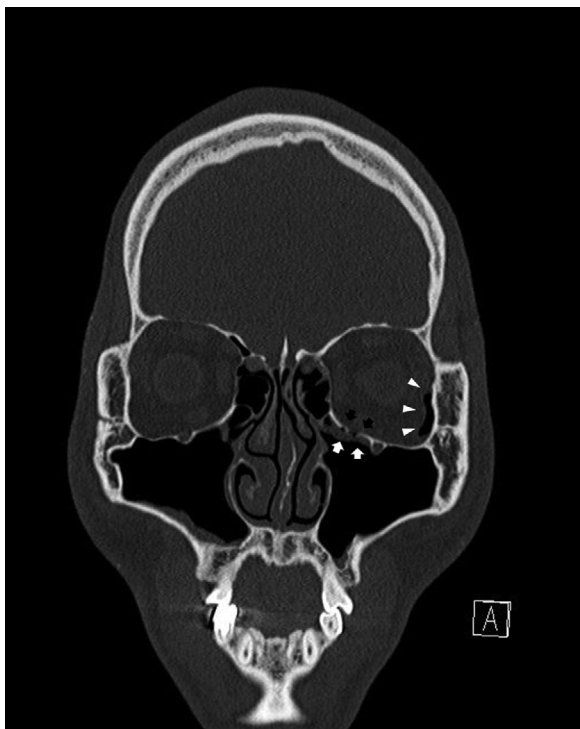


FIGURE 4 Coronal computed tomography (CT) shows the left inferior orbital wall fracture (white arrows), herniation of orbital fat through the fracture (black arrows), and orbital emphysema (arrowheads)

was instructed to avoid blowing his nose, sneezing, vomiting or performing any other activities that may lead to increased pressure in the nasal cavity, including diving or flying.

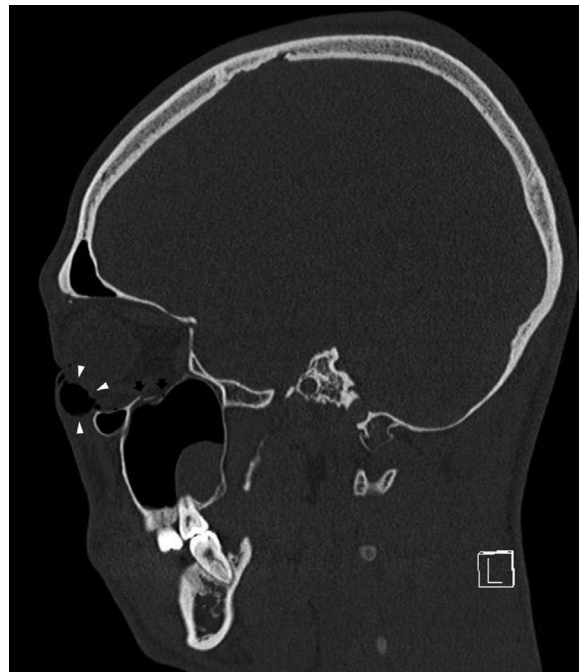


FIGURE 5 Sagittal computed tomography (CT) shows the left inferior orbital wall fracture (white arrows) and orbital emphysema (arrowheads)

3 | DISCUSSION

An orbital blowout fracture is a traumatic deformity of the orbital wall, typically resulting from the impact of a blunt object with a diameter exceeding the bony margins of the orbit. Cases of spontaneous orbital emphysema with nontraumatic causes are very rare.¹ A rapid increase in pressure in the upper airways while sneezing, coughing, and blowing one's nose is related to barotrauma, which very rarely leads to orbital wall fracture. The pressure evoked by forceful nose blowing is estimated to rise to 66 mm Hg. Sneezing with the oral and nasal passages blocked may evoke a pressure of up to 176 mm Hg.² Orbital emphysema without complication is not a medical emergency and usually resolves spontaneously within 2 weeks.

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